3GPP TSG RAN WG1 #110-e R1-22abcde

e-Meeting, October 10 – 19, 2022

**Agenda item: 7.2**

**Source: Moderator (Nokia)**

**Title: [110bis-e-NR-R16-11] UE type “SwitchedUL” and simultaneous transmission on two UL bands – Moderator Summary**

**WI: NR\_RF\_FR1**

**Release: Rel-16**

**Document for: Discussion and Decision**

# 1 Introduction

This document is a summary of the discussion related to the RAN1#110bis Release-16 maintenance (agenda item 7.2) issue #11 on UL Tx Switching, handled in the following email thread:

[110bis-e-NR-R16-11] Discussion on correction to UE type “SwitchedUL” and simultaneous transmission on two UL bands by Oct 17 – Karri (Nokia)

Relevant tdocs:

* [R1-2210190](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_110b-e/Docs/R1-2210190.zip) Correction to UE type “SwitchedUL” and simultaneous transmission on two UL bands Nokia, Nokia Shanghai Bell

**Contacts**

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# 2 Summary of the issue raised in the Tdoc

Problem description of R1-2210190

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| For CA-based UL Tx Switching with SwitchedUL (Option 1) the specifications do not correctly capture the RAN1 agreement that the UE is not supposed to be able to transmit on carrier 2 when it is transitting 1-port transmission on carrier 1.**Agreements:*** For inter-band UL CA, if UE reports via capability signaling to support uplink Tx switching, UE further reports via capability signaling which option (between Option 1 and Option 2) is supported.
	+ Option 1: If uplink Tx switching is configured, UE is not expected to be scheduled or configured with UL transmission on carrier 2 for case 1.

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|  | Number of **Tx chains** in WID (carrier 1 + carrier 2) | Number of **antenna ports** for UL transmission (carrier 1 + carrier 2) |
| Case 1 | 1T+1T | 1P+0P |
| Case 2 | 0T+2T | 0P+2P, 0P+1P  |

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Proposed specification change in R1-22010190 to TS38.214 subclause 6.1.6.2 *Uplink switching for carrier aggregation*

- The UE configured with *uplinkTxSwitchingOption* set to 'switchedUL' is not expected to simultaneously transmit on the two uplink carriers.

# 3 Discussion

# 3.1 Round 1

### Question 1

* **Do you agree with the problem statement, yes/no? If no, please explain.**
* *For CA-based UL Tx Switching with SwitchedUL (Option 1) the specifications do not correctly capture the RAN1 agreement that the UE is not supposed to be able to transmit on carrier 2 when it is transmitting 1-port transmission on carrier 1.*

**Please provide company comments to the table below**

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| **Company**  | **Comment** |
| Nokia | As the proponent, we agree with the problem statement. We haven’t identified the specification restriction limiting the “SwitchedUL” UE type transmissions to one UL carrier only at a time. |
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### Question 2

* **Please provide your comments on the specification change proposal**
* The UE configured with *uplinkTxSwitchingOption* set to 'switchedUL' is not expected to simultaneously transmit on the two uplink carriers.

**Please provide company comments to the table below**

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